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Introduction of Lean/Value Stream Mapping at hospital units in three Nordic countries and expected impact on the working environment - A Nordic Multicenter study

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Conceptual framework and Purpose

A recent review has documented mostly negative effects of rationalization on musculoskeletal and mental health and corresponding risk factors. This goes in particular for the healthcare sector (Westgaard & Winkel 2011).

Lean Practices are increasingly used in healthcare and Value Stream Mapping (VSM) seems to be a commonly used tool to identify and minimize waste (Keyte & Locher, 2004). The health impact of Lean varies considerably between investigations. This may to a large extent be due to differences in the operationalization of Lean (Brännmark et al 2012).

VSM is a participatory tool, i.e. those affected by this type of rationalization are performing the analyses and subsequently suggesting the interventions. Participation has been shown to be crucial to obtain ownership of the suggested interventions and thereby increased impact. On this background rationalizations based on VSM may offer a procedure that also includes working environment issues. In addition, workplaces in the Nordic countries seem to offer good opportunities for realizing a true participatory approach considering also working environment issues when rationalizing a value stream (Guðmundsson 1993, Westgaard & Winkel 2011).

VSM has been shown to be a powerful rationalization tool in the elimination of non-value-adding tasks (non-VAT). Several studies show that non-VAT generally offer less risky physical and mental exposures (e.g. Kazmierczak et al 2005, Palmerud et al 2012, Jonker et al In Press).

According to this, non-VAT is usually named “the porosity of the working day”. Strong political demands to maximize efficiency in healthcare may thus potentially result in an excessive rationalization causing a too large reduction in porosity and thus too risky work intensification.

On this background it remains unclear if rationalization based on VSM as realized at Nordic hospitals, potentially offers a procedure that may improve both performance and the working environment or rather represent a threat deteriorating the working environment.

In practice Lean is often perceived as a “threat” by employees at hospitals (Härenstam et al 2000, many personal communications). In contrast, most Lean consultants generally describe Lean as an opportunity for improvements also in terms of the working environment (numerous personal communications). In this paper we present some preliminary data based on 1st line managers assessments of expected impact of action plans based on VSM. The presented data are retrieved from a larger NOVO Multicenter Study (Winkel et al 2012).

Design/Methodology

Fourteen hospital wards in Denmark, Iceland and Sweden are investigated. All are using VSM to improve the efficiency of their patient flows. Current and future states are assessed and action plans presented. 1st line managers are then interviewed and asked to assess expected impact of each suggested intervention in the action plan in terms of efficiency, treatment quality, physical and psychosocial working environment. So far five of the fourteen 1st line managers have been interviewed.

Results and Discussion

All together 103 amendments for improved performance have been assessed in the five action plans. Eighty-one of these were assessed also to imply improvements in the working environment. Three suggestions were expected to imply a negative impact and four no impact on the working environment. Fifteen suggestions were not rated as they were decided not to be realized. The dominance of expected positive impact on the working environment of the amendments will be discussed in terms of potential bias and real opportunities.

The Multicenter Study includes follow-up investigations of realized impact on the working environment as well as potential national differences between the three investigated countries (cf. Birna & Gunnarsdóttir 2012; Edwards & Winkel 2012; Jarebrant et al 2012).

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